Google

# <model-viewer> Fidelity Testing

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github.com/cdata
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```
<model-viewer src="DamagedHelmet.gltf">
```

github.com/GoogleWebComponents/model-viewer

HARD PROBLEMS

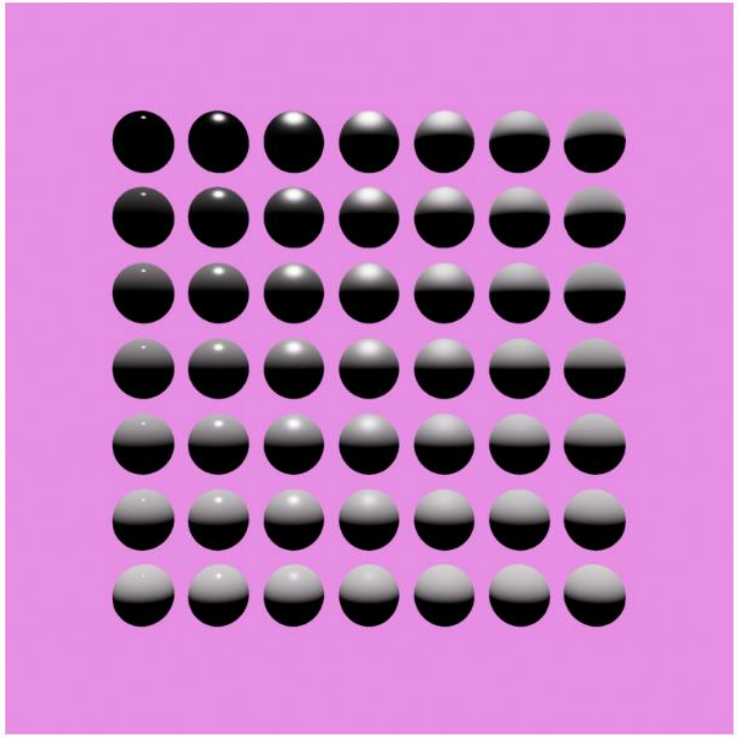
# #2: Cache Invalidation
# #1: Predictable Model Renders

PROBLEM AREAS

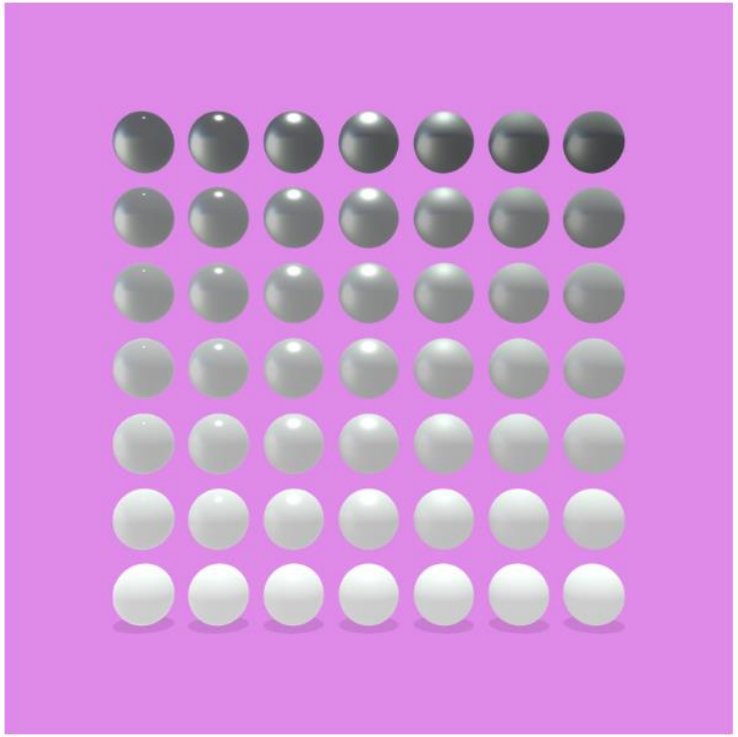
# Incorrect interpretations
# Inconsistent opinions
# Unpredictable fallbacks

LIGHTBULB EMOJI

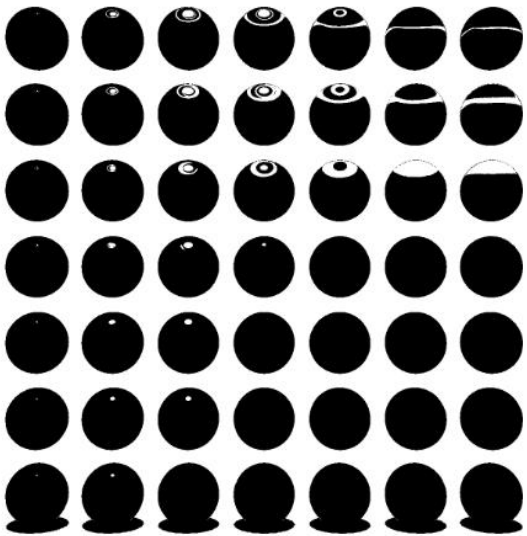
# Automate it!



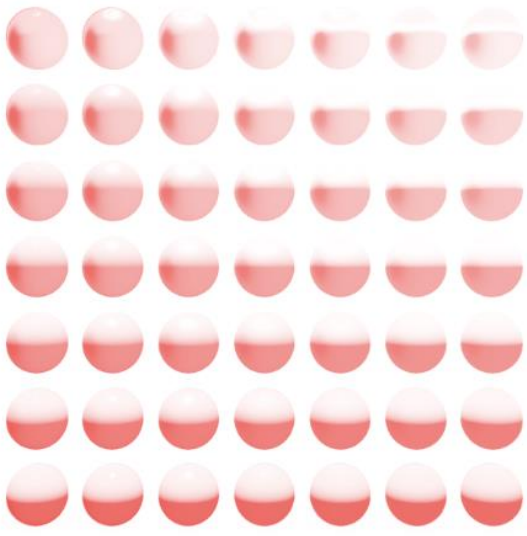
*Filament golden image*



`<model-viewer>` *reproduction*

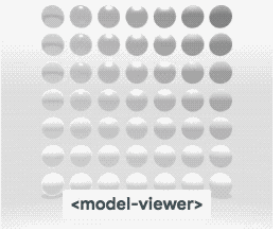


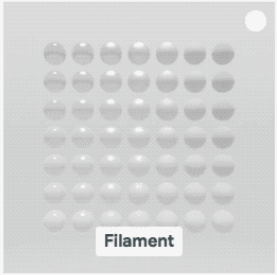
*Boolean match*

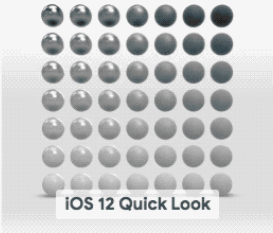


*Color distance*

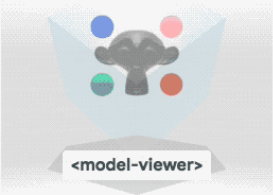
## pbr-spheres

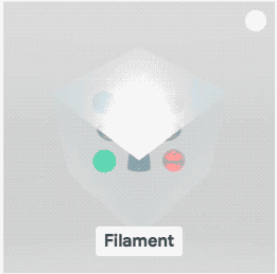


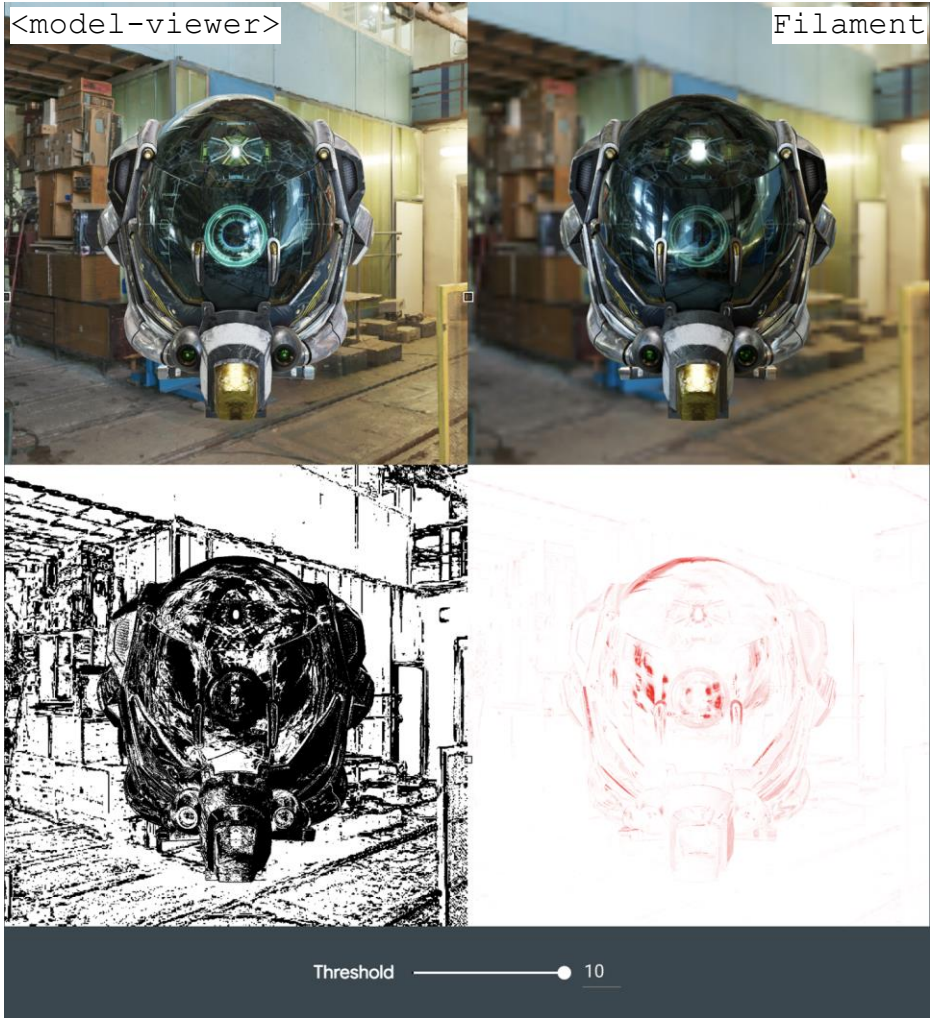




## alpha-blend-litmus



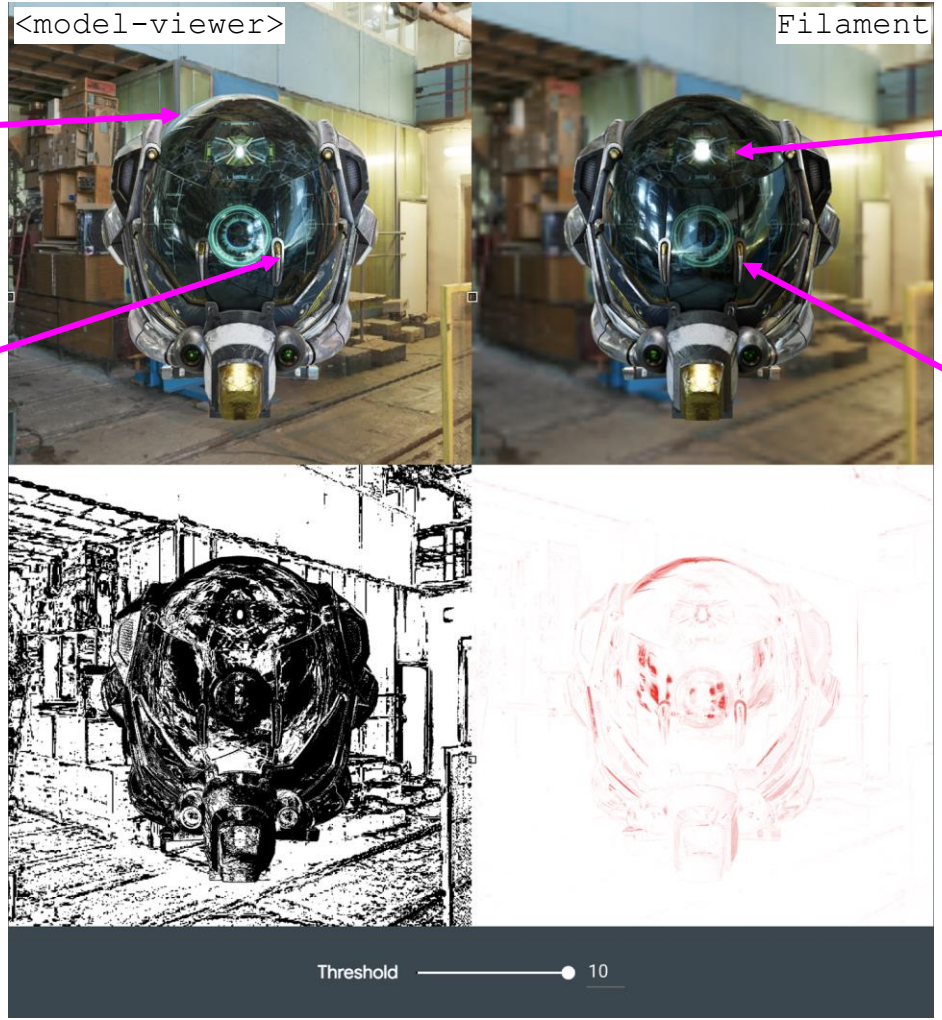
*Select two images to compare them!*




Google

Specular highlight

∠180º env map rotation




Directional light radius

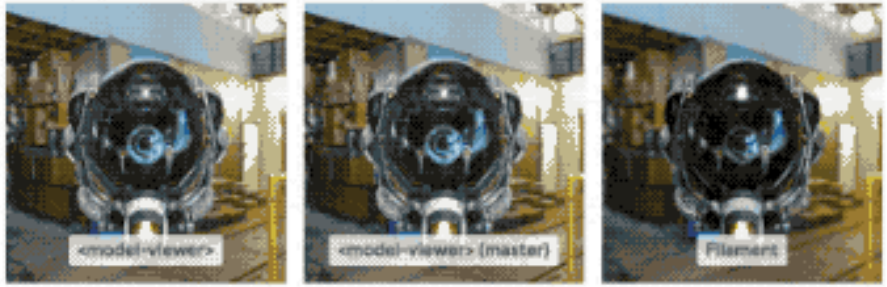
Muted emissive

Google

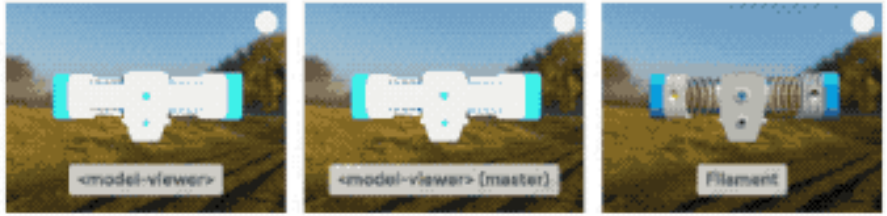
LIGHTBULB EMOJI

# Test Khronos glTF Sample Models!

damaged-helmet-hdr-pmrem




khronos-2CylinderEngine




khronos-AlphaBlendModeTest

*Select two images to compare them!*

Google

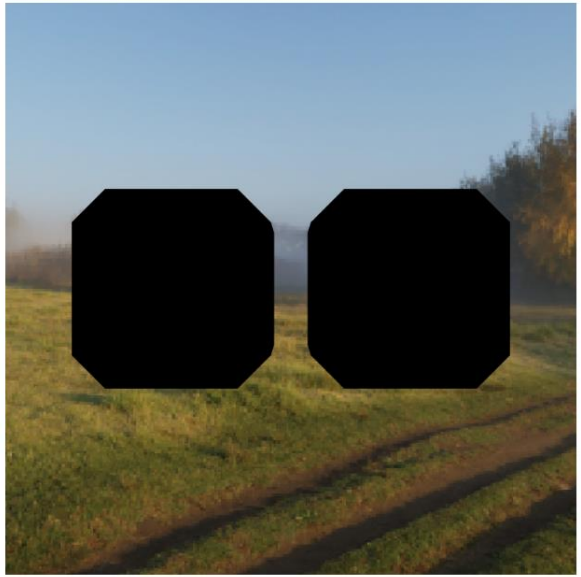
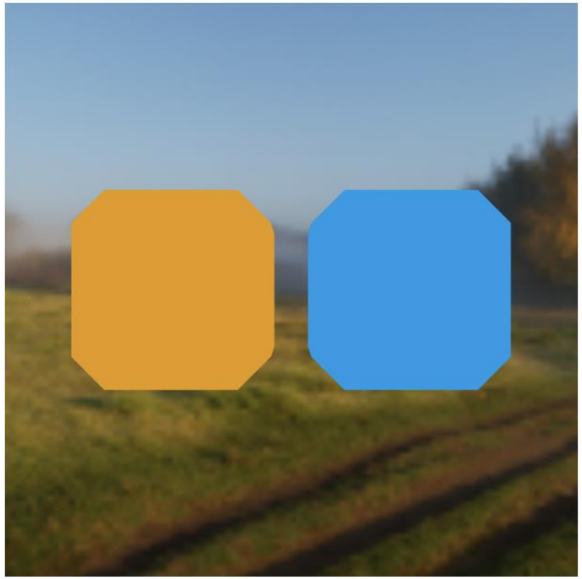
| `<model-viewer>` | Filament `gltf_renderer` |
| --- | --- |
| | |

**16bpc PNG support**
**Status: fixed**
[google/filament#835]

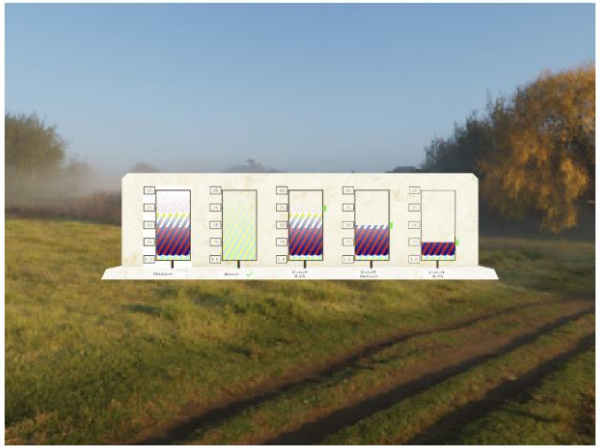
| `<model-viewer>` | Filament `gltf_renderer` |
| --- | --- |
| | |

**Normal Tangents**
**Status: fixed**
[google/filament#847]

**Unlit Material**
**Status: fixed**
[model-viewer#377]

| `<model-viewer>` | Filament `gltf_renderer` |
| --- | --- |
|  |  |

**Alpha Blending**
**Status: fixed**
[model-viewer#423]

| `<model-viewer>` | Filament `gltf_renderer` |
| --- | --- |
|  | |

| `<model-viewer>` | Filament `gltf_renderer` |
| --- | --- |
| | |

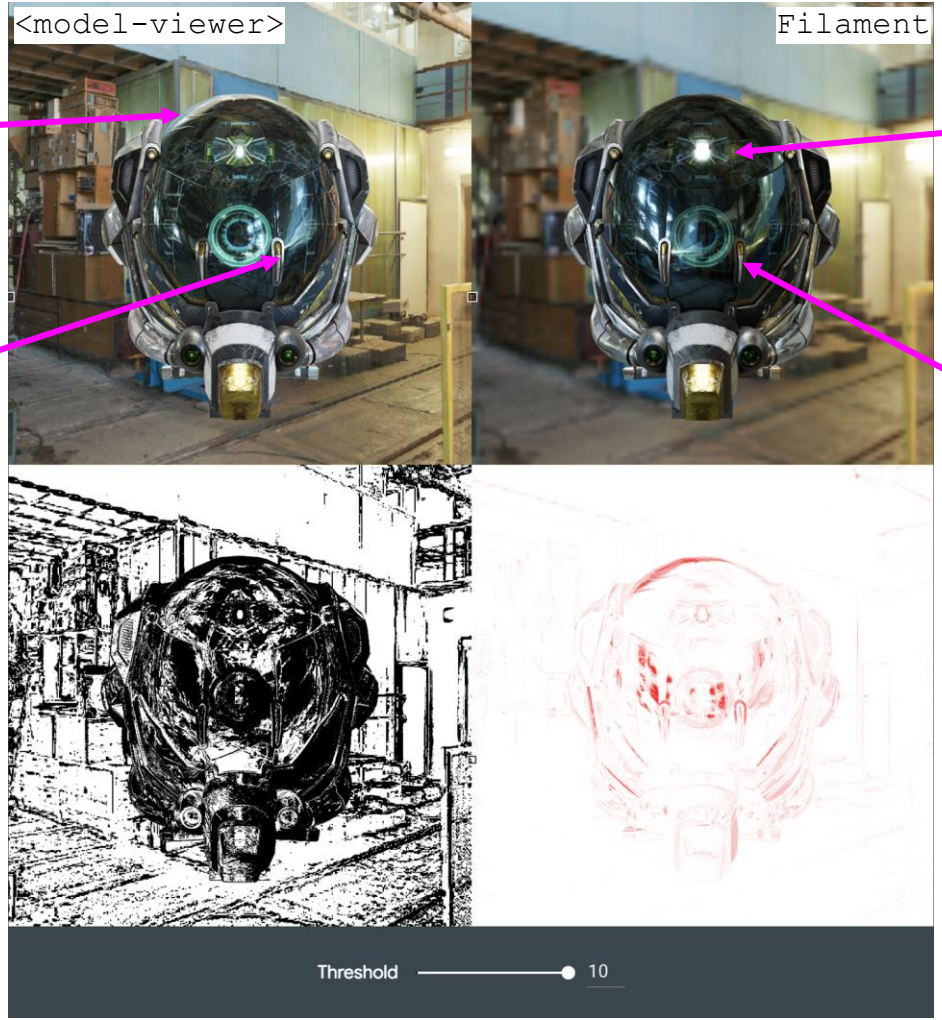
**Emissive**
**Status: fixed**
google/filament#865

PROGRESS REPORT

# Was it worth it?

Specular highlight

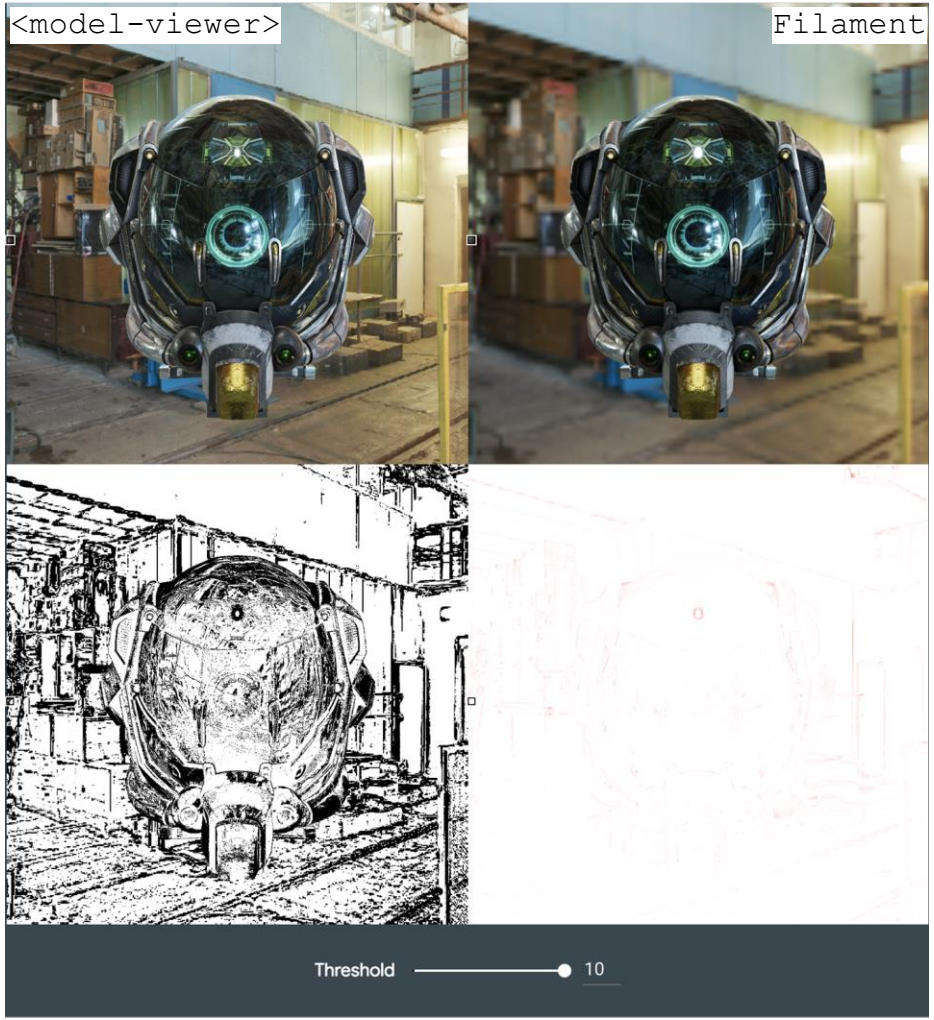
∠180º env map rotation



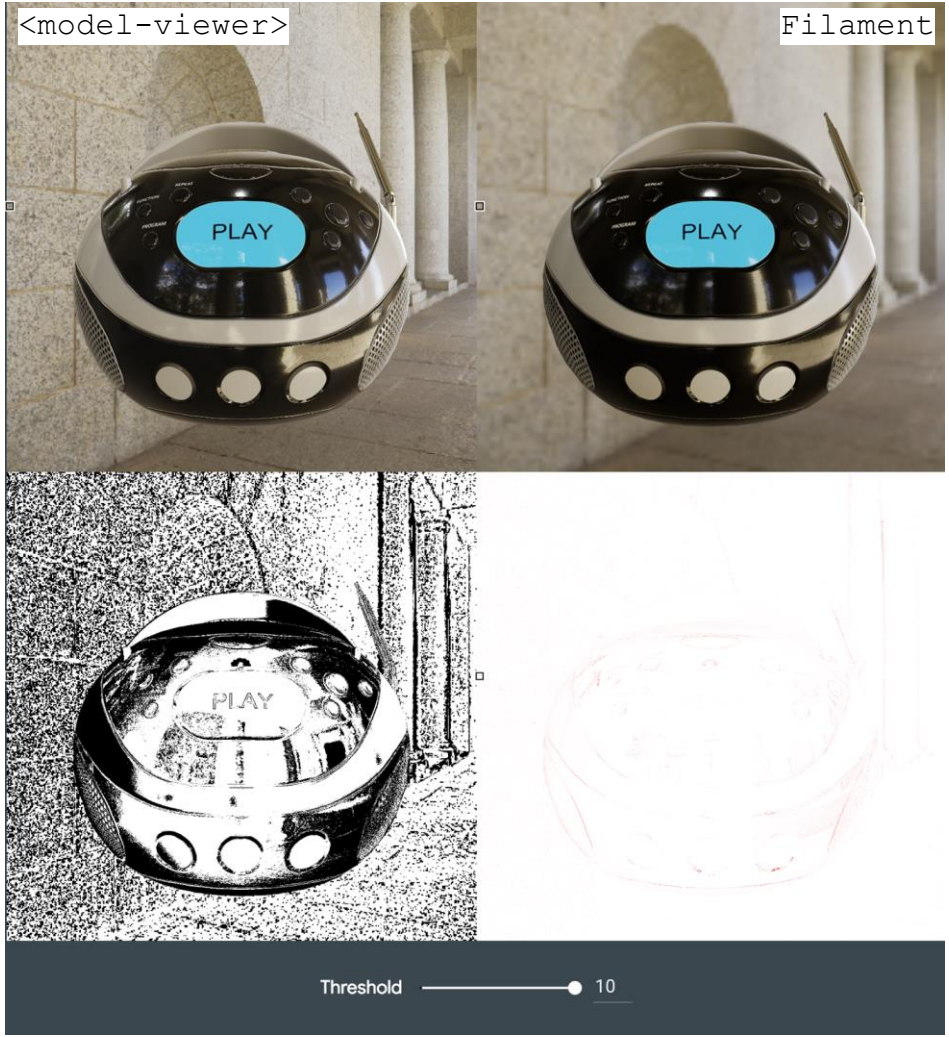

Directional light radius

Muted emissive

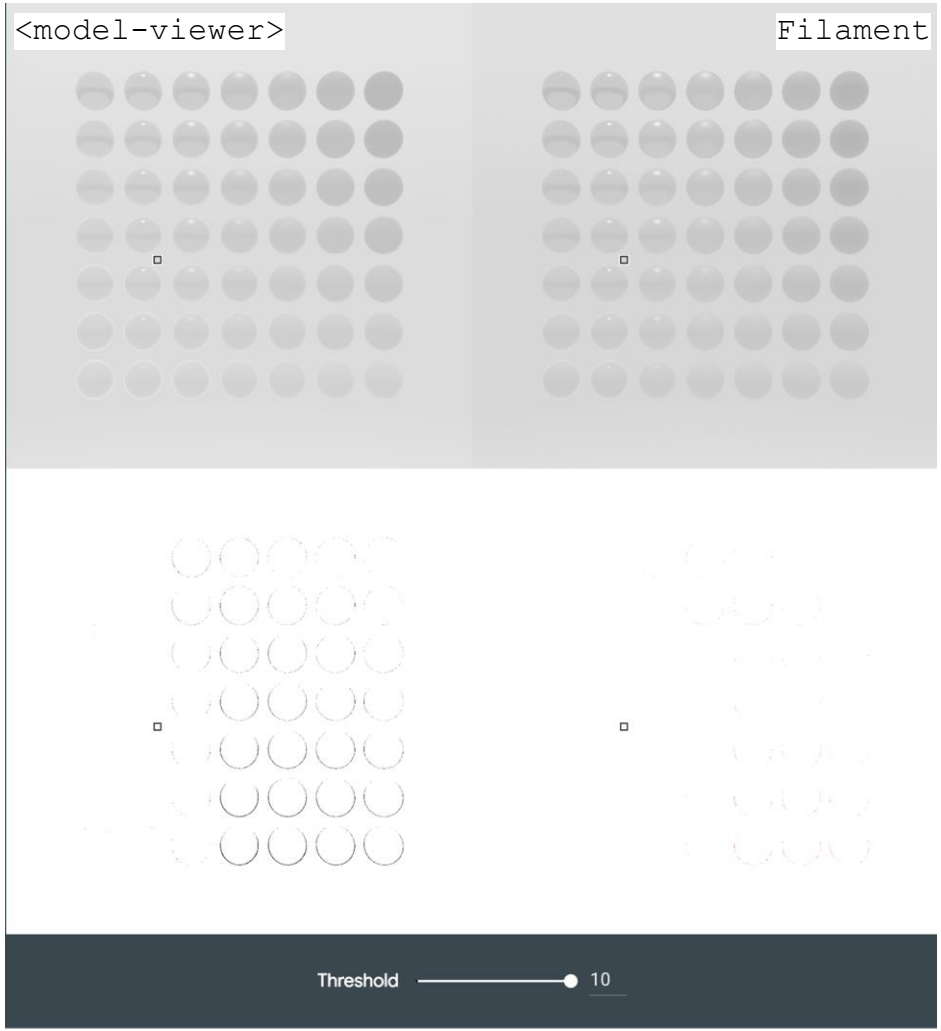
Google




Google




Google




Google

LIVE TEST RESULTS

googlewebcomponents.github.io/model-viewer/test/fidelity/results-viewer.html

FUTURE WORK

# Khronos WebGL Reference Viewer

# Solution for iOS Quick Look

# Interactive Progress Report Dashboard

# Standalone Fidelity Testing Effort

THE END

# Thank you!